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Five IT projects for business agility

Giving CEOs ways to succeed in the face of accelerating business change

IBM

Service levels are being met. System utilization rates are high. You've enabled a web channel. Overall application performance is positive. IT life is good. Your CEO is pleased. It's time to sit back and relax. Right?

Or is your CEO now asking, "What have you done for me lately?"

As finely tuned as IT has become, the current business environment has created some new expectations.

Business structure has changed. Today's business is a growing network of relationships between employees, customers, suppliers, and partners. And this network is becoming more complex and dynamic. CEOs are asking questions about the agility of their organizations across this dynamic business network and these questions require a response from IT.[1]

- How can we become more innovative—not just in product design, but in the way we conduct business and in the processes we use?
- How can we create the "operational dexterity," to deal with the current level of business change and complexity?
- How can we become closer to the next generation of customers that are living, working and buying in new ways?

What does this mean for IT? It means IT must more directly impact business processes and create greater agility in the organization—beyond traditional in-house applications and systems. Every organization needs to start thinking about the key technologies in this space:

- Business Process Management: to define and improve business processes
- Decision Management: to optimize and automate decisions
- Cloud: to create cost flexibility and boost efficiency
- Connectivity and Integration: to enable secure, fast and cost effective connections throughout the business network
- Application Infrastructure: to increase deployment flexibility and optimize hardware costs and utilization

The numbers indicate high growth companies are 42 percent better at managing change successfully,[2] but only 49 percent of CEOs believe they can deal with complexity successfully today.[3] Fundamentally, CEOs are asking their CIOs and their IT organizations to become change agents—building from a focus on improved productivity and business IT alignment—to becoming catalysts for change. Ask yourself the tough question.

Are you ready?

This paper examines real, proven projects in these five areas and demonstrates how you can get started meeting the needs of your CEO.

Project 1: Define and improve a process to enhance productivity and lower costs

One common business frustration occurs when a core operational function seems to have tasks that take far longer and cost far more than they should. The people in the functional area are good people, but the way things get accomplished is problematic—usually an outgrowth of ad hoc work across many different individual projects and teams. The processes are often unclear or disjointed. This is a problem to which IT can bring a solution—Business Process Management (BPM).

BPM is a discipline consisting of software and expertise to improve the performance, visibility and agility of business processes and facilitate business innovation.

For instance, let's examine one of the fastest growing grocers in the world. Recruiting, hiring and empowering the best people are top priorities for this company, and so are the processes that help bring new people on board. However, even though this grocer is consistently listed in Fortune Magazine's "Top 100 Best Companies to Work For" list, keeping up with Human Resources (HR) events and ensuring HR process completion became a huge burden. The HR team decided to upgrade the way they supported their managers and employees in the stores—and ultimately their customers.

With the growing volume of requests, the HR group realized they needed a better way of empowering local managers to own more of the process—while still maintaining corporate standards and policies. Process requests could come from any manager in any of their 166 stores, spread across 10 regions and two continents, involving any of over 32,000 employees. Many requests required approval from additional managers; work that had to be coordinated by the central HR teams. Most requests were time sensitive—requiring completion within a week before the next pay cycle.

Like many HR groups, this team manages their employee information in a central HR Management System (HRMS). Trained specialists enter and update employee information using the complex Oracle PeopleSoft application. And like many organizations, the HR team was also using the common tools at hand to do their work—paper faxes, email, spreadsheets and phone calls. Because the process relied so heavily on human interactions and localized information, inefficiencies existed in many places. There were no process metrics and little visibility into bottlenecks.

So the HR team turned to Lombardi Teamworks® (now offered as IBM® WebSphere® Lombardi Edition) BPM software to help them extend their processes out to the local stores and to efficiently manage HR requests. Teamworks' unique design environment allowed business and IT staff to collaboratively design and implement the HR self-service process. The iterative implementation framework allowed the team to continually refine requirements and ultimately deliver a solution that can drive better results.

Store managers and employees can log on to an internal Teamworks® portal to initiate requests. Now, requests that require additional approvals are automatically identified and routed to the appropriate manager with a deadline for completion. Users can track the progress of their requests and receive follow-up tasks if additional information is required. The Teamworks solution is based upon a scalable relational database management system (RDBMS) architecture that provides a common web-based environment for performing process tasks and managing process performance.

Managers can view the real-time status of requests and overall performance using built-in reports and scorecards. If there are bottlenecks, managers can see where the problem is and help drive resolution. Teamworks also promotes continuous process improvement. The Teamworks performance server collects performance data representing the key business events and metrics as processes are being executed so that processes can be further optimized.

Teamworks supplies system connectors to provide access to file, messaging and database operations on demand. The delivered implementation contained system integration with Oracle® PeopleSoft HRMS via Simple Object Access Protocol (SOAP) web services. Teamworks uses the Java® Authentication and Authorization Service (JAAS) standards to provide single-sign on capabilities for Microsoft® Active Directory along with other LDAP servers to simplify user management. Information entered in the portal is automatically validated for completeness and accuracy via SOAP web services back to the Oracle PeopleSoft HRMS.

The Teamworks Event Manager handles HR events that are received via the Teamworks messaging framework from external services through JMS, HTTP, SOAP and ensures that these requests are processed on time. These events are then automatically correlated to business process instances.

The grocer determined that their BPM software implementation was a quicker, lower cost solution for their diverse process management requirements than any other alternative—including Oracle. The conclusion was validated by the initial deployment of Teamworks. The first HR processes were deployed to 500 users in 90 days. The initial deployment yielded significant benefits—with reductions of up to 90 percent of the time spent managing the process while accelerating the completion of requests by over 400 percent. Today, there are 14 different processes deployed—supporting a complete range of areas from pay changes to 401K and other employee benefits.

Consider how BPM could help you. If you have an important process in your business that needs improvement, IBM is ready to help. To access the case study described in this project, click here: HR Self-Service Case Study

Project 2: Automate operational decisions that get customers to buy more

What if you could figure out, in real time, which products to suggest to a customer that have the highest probability of acceptance? How can you automate the determinations required to get to that suggestion? The answer is to use decision management technologies that enable faster, better operational decisions. For example, which cross-sell or up-sell opportunity should be offered to customers. It begins with a business rules management system (BRMS) that harvests organizational knowledge and best practices to automate, manage and govern decisions. It is then augmented by complementary analytics that add additional insight into the best course of action.

Consider the example of a leading bank with nearly 20 million customers and operations around the world. The bank wanted to be better at closing opportunities with new and existing customers by identifying the products that would most likely interest them. The bank used the IBM WebSphere ILOG® BRMS offering to fix its point-of-sale customer interaction on financial products. Cross-sell, product eligibility and risk assessment decisions were automated at the point-of-sale and during the account opening process, across multiple channels and financial products.

A key aspect of this solution is its ability to seamlessly combine two potentially conflicting decisions—cross-sell/up-sell opportunities versus eligibility/risk management—since a good candidate for a new credit line might also put the customer above the credit limit the bank wants to maintain, based on the customer's specific financial details.

Most business applications cannot easily handle these types of decision scenarios. One of the main drivers for this project was to pre-approve customers before making an offer, thereby avoiding the situation where the bank employee promotes products to the customer and then has the customer be declined.

The bank wanted to enable developers to easily build and deploy rule-based applications that automate fine-grained, variable decisions used across disparate business systems. It was also important that business users be able to define and maintain business rules using an intuitive interface without technical support.

IBM helped the bank create a model that was populated using structured analysis by subject matter experts. Cross-sell recommendations were derived using a very simple mathematical function. The basic premise of the recommended cross-sell model is to map customer profiles and bank products to a common set of bank goals. Then, it would use these mappings to derive baseline cross-sell product rankings by customer profile.

The resulting baseline recommendations could then be enhanced and filtered using additional business rules.
IBM worked with the bank to define the standard inventory of customer profiles, bank products and bank goals. The customer profiles and bank products were then mapped to bank goals by the bank's subject matter experts using a structured technique.

With the WebSphere ILOG BRMS, a customer can use any of the bank's channels—branch, call center or Internet banking—to apply for a credit product while simultaneously being preapproved for an additional cross-sell product with a preapproved credit limit. The whole process takes only a few seconds.

The solution uses the bank's existing infrastructure, including IBM WebSphere Application Server, for the deployment of the WebSphere ILOG JRules Rule Execution Server and Rule Team Server. IBM WebSphere MQ provides the messaging middleware for assured delivery of Java Message Service (JMS) messages. IBM DB2® 8.1 on IBM System z® provides the data management solution for the bank's databases and enterprise data warehouse.

The IBM Software Services Solution Implementation Standard (ISIS) methodology provides best practices for building, deploying and maintaining decision management solutions, such as the bank's product recommendation application. One aspect of ISIS is the IBM Agile Business Rules Development (ABRD) approach for iterative rules-based application development. ABRD includes five phases, or activities, as part of a development project:

1. *Harvesting*—The process of gathering business rules
2. *Prototyping*—The process of entering business rules into the BRMS
3. *Building*—The process of building a working system representing the organization's business rules
4. *Integrating*—The process of deploying the rules to an execution environment suitable for end-to-end testing
5. *Governance*—The process of monitoring, maintaining and enhancing business rules

The payoff has been tremendous. The bank quickly realized an increased "share of wallet" with optimized cross-sell offers, while managing risk and improving customer satisfaction. The system maximized opportunities for selling to its best customers and increased growth rates with targeted offers to attract new customers, yielding the following returns:

- Doubling the uptake of cross-sell offers to customers
- Over $10 million incremental revenue in two months, thereby paying off the solution in a couple of months

These results come from the initial implementation. But the payoff is likely to be even greater, since the BRMS provides a platform to iterate and refine offers. The bank can also improve business rules through the extensive use of predictive analytics to better target offers and identify potential risks. The results of these analyses can be easily, safely and reliably implemented in the WebSphere ILOG BRMS, and then deployed for use in the production application.

Are you ready for a quick win using BRMS? We can help you experience measurable business results in nine weeks with a quick win pilot

Project 3: Reduce costs and boost efficiency with cloud

Virtualization has helped IT organizations improve their application environments while lowering IT costs significantly. But why stop there? Companies are exploring how to get to the next level. How can you take costs even lower? How do you make deployment and removal of environments even faster and easier? The answer is Cloud capabilities. Bringing together all of your application environments into a private cloud enables benefits that go beyond traditional virtualization, leveraging standardization and automation to achieve exponential cost and time value for IT organizations.

Let's take an example of a large, multinational financial services company. They already had implemented a number of IBM WebSphere Application Server environments that helped them build custom applications to create products to meet emerging customer needs. Success led to growth. Growth resulted in a server environment of 500 servers across two datacenters. So it was time for the next wave of consolidation and virtualization, down to 48 blade servers virtualized by VMware.

However, two important issues needed to be solved. First, the company needed to be able to respond to its customers by quickly and efficiently building temporary development environments for the holiday sales seasons and then be able to take them down easily when they were no longer needed. Second, the company also wanted to be able to recreate in one data center its six security zones with complex firewall rules without spending significant man hours on the project.

The company turned to Haddon Hill Group (HHG), an IBM Business Partner to solve their needs leveraging cloud technologies from IBM. Step one in the project was focused on improving the efficiency of environment provisioning by addressing questions like:

- Are TCP/IP addresses assigned before or after you do your security tests?
- Do you want to use VMotion on Virtual Center?
- Do you want a single or multiple environments?
- Do you want to be able to exchange environments between multiple hardware systems?

With easier provisioning and maintenance processes for WebSphere environments, HHG began rolling out the new environment with IBM WebSphere CloudBurst™ Appliances delivered with IBM WebSphere Application Server Hypervisor Edition, a virtual image of the IBM WebSphere Application Server.

By using the WebSphere CloudBurst Appliance a WebSphere product image can be dispensed into your server environment private cloud as a virtual server in minutes. This can be done in a clustered environment. Even an IBM WebSphere Process Server environment with all the settings and database connections can be rolled out in a fully clustered environment in 90 minutes while easily managing all the configurations.

To enable this kind of rapid deployment capability, WebSphere CloudBurst Appliance takes a patterns-based approach to the cloud. Users leverage special virtual images from IBM, along with their own configuration and scripts, to build WebSphere CloudBurst Appliance patterns that represent their target middleware application environment. Once built, WebSphere CloudBurst Appliance can deploy these custom patterns to a private cloud. The entire deployment process, from installation to configuration, is automated and produces running, cloud-based environments in a matter of minutes. Further, since these patterns are stored on the appliance, they can be deployed whenever necessary to consistently create custom application environments.

Now the company can quickly and easily create, roll-out, roll-back and catalog temporary virtual environments in each of their six security zones use the WebSphere CloudBurst Appliance to reconfigure and manage the configuration of the physical servers. With investment payback of less than a year and projected savings of $3 - 4 million in alternative configuration costs, the benefits are significant.

Beyond the cost savings, the company can meet customer needs faster. A development or QA server typically takes 40 - 60 days to be turned over to operations with significant time spent finding golden images and verifying it with security. This now can be reduced to 3 - 4 days using WebSphere CloudBurst Appliance with its catalog of standard configurations for the WebSphere stack. Authorized users can click and deliver an environment in an hour.

If you are interested in taking your cost savings and efficiency to the next level in your own private cloud, you can get started today by visiting: **ibm.com**/websphere/cloud

Project 4: Making vital business connections faster and more effectively

Think about your business environment—that broad network of relationships and interactions that make up your business. It encompasses the people and systems inside and outside your organization. Above all, it's constantly changing. Suppliers come and go. Regulations change. New relationships emerge. Underlying these business connections are a wide array of different applications. The ability to make faster, more effective connections between these disparate applications across an ever broader, more dynamic business network is fundamental to the success of your business.

A large, international company in the air freight industry had a growth problem. Following a decade of rapid growth, it had become increasing difficult to adapt operations to the dynamism and variability that are part of the air freight business.

To manage its business, the company relies on a large and diverse group of applications that handle highly specialized functions. Aircraft monitoring and cargo tracking systems provide critical telemetry data. Commercial scheduling and crew scheduling systems determine where its planes and people need to be to meet delivery requirements. Its Maintenance, Repair and Operations procurement system manages the repair and overhaul of its aircraft, while its ERP system handles finance functions. The ongoing exchange of information with customers, vendors and governmental entities—such as U.S. Customs, the Transportation Security Administration and air traffic controllers—is also central to its operations.

For the company to operate most efficiently, it needed to integrate these critical and interdependent systems so they could work toward a common operational plan. But the reality was that the sheer number and diversity of its systems made robust integration a major challenge. Because of this, the company relied on a mix of makeshift integration approaches, as well as human intervention, where staff would manually triangulate information from different systems and attempt to make the correct decision.

There is a better solution. The company used service oriented architecture (SOA) to abstract their core back-end applications into services. Now they can take functions that had been spread across multiple platforms—requiring each to be accessed separately—and unite them into a "composite" application workflow. These services are governed within IBM WebSphere Service Registry and Repository to ensure optimal visibility, management and reuse.

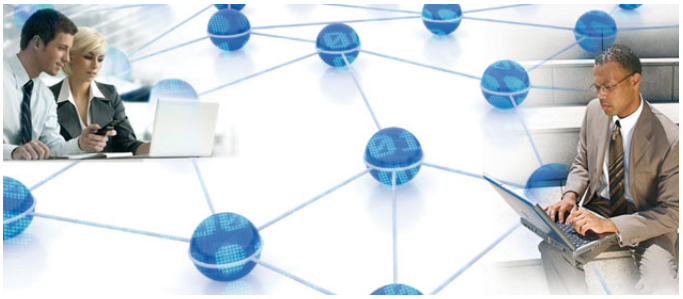
The other critical need the company had was to replace their existing messaging system with a more reliable and scalable messaging system. The company's worldwide headquarters receives airlines' messages and processes and routes those messages to the different systems. They needed to connect any of their applications to each other and to any of the applications of their customers, suppliers and partners, including government agencies, such as US Customs. And they needed to be able to do this rapidly and easily enough to adjust as their business network changed. By using an SOA approach, this any-to-any connection was realized.

They partnered with IBM to put together an architecture that uses IBM WebSphere Process Server, IBM WebSphere Enterprise Service Bus (ESB) and IBM WebSphere MQSeries® to deliver their any-to-any connectivity needs with the required security and performance. WebSphere MQ provided the basic connection messaging protocol between applications. WebSphere ESB provided a common connectivity platform between applications, handling the routing, mediation and transformation of information. WebSphere Process Server enabled them to execute their business processes across their network and handle file-based messages.

The results speak for themselves. The company experienced an 80 percent reduction of expected costs and a 50 percent reduction in the expected time of integrating operations with strategic delivery partners. They also experienced reduced overall operating costs and improved time to market with new business services.

Do you need to make faster, better connections to customers, partners or suppliers in your business network? If so, consider an SOA connectivity approach. Click here for more information about Application Integration with SOA

Project 5: Optimize system resources with shared server environments



It's a common story. Multiple lines of business have critical applications that each must have high availability. Their application and server environments are well managed to do so, but they are managed separately. This creates extra cost and capacity. However, fears that one application may adversely impact the system availability of another have kept the environments isolated. The question is can these applications be brought into a shared infrastructure to reduce costs without compromising system availability?

Let's take the example of a large life insurance company with over 40 offices and over 15,000 employees. The company's IT administrators were required to maintain several isolated environments for hosting various business applications in the data center. This led to management complexity and sub-optimal utilization of hardware resources.

The solution was actually pretty straightforward—implementation of IBM WebSphere Virtual Enterprise software within the company's UNIX environment. The company created a series of dynamic clusters spread across multiple nodes. These clusters were front-ended by an On Demand Routing (ODR) cluster. No changes were required in the existing applications to bring them into this environment

The use of WebSphere Virtual Enterprise on the IBM AIX operating system provided a base that met the mission critical needs of high performance and resilience including automated health management. WebSphere Virtual Enterprise provides autonomic health policy enforcements that proactively manage the application server resource pool. The health policy feature ensures diagnostic data collection and takes away costly manual administrative tasks.

The solution also enabled the dynamic clusters, which provided the required virtual isolation of environments. Failures in one application or its associated server component did not impact other applications within the shared environment. Dynamic clusters provide elasticity to the previously static application server environment and ensure a defined resource pool for a target application is always maintained.

The intelligent routing rules defined by the ODR cluster made it much easier to govern the overall system traffic—improving efficiency and utilization across the whole environment. Intelligent routing provides a smarter way to route traffic that is aware of middleware servers and provides valuable statistics to provision new servers with increases or decreases in application related nodes. Intelligent routing also provides business visibility to the middleware environment.

With this consolidated environment—it became much easier for the company to manage the entire IT infrastructure at lower costs. They achieved a 50 percent reduction in hardware infrastructure. They actually increased availability by responding to unhealthy application servers through health policies. Operational summaries on the runtime dashboards provided proactive notifications in case of any policy breach or performance issues. This resulted in early problem detection and resolution.

If you have a need to operate multiple mission-critical application environments in a shared infrastructure visit: **ibm.com**/software/webservers/appserv/extend/virtualenterprise/

Take the next step

Each of these five projects shows how you can expand the business impact and raise the ROI of IT. In other words, how you deliver what your CEO needs. Although each example described how one specific organization implemented a solution to address its business needs, the basic concepts are universal.

Concepts such as optimizing business processes, improving decisions, enabling cloud capabilities, connecting the business network, and providing an exceptional application environment are all relevant to any enterprise that uses IT.

As you think about these projects and the benefits they delivered, also think about how your company can use these capabilities to address its business needs. IBM is ready to help. At the end of each project is the next step you can follow to take action.

For more information

To learn more about these topics and other ways to help the business work smarter, please contact your IBM marketing representative or IBM Business Partner, or visit the following website: **ibm.com**/business-agility

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[1] "Capitalizing on Complexity—Insights from the Global Chief Executive Office Study", IBM Institute for Business Value, May, 2010

[2] "Connecting across the C-suite," IBM Institute for Business Value, Sept. 2010

[3] "Capitalizing on Complexity—Insights from the Global Chief Executive Office Study", IBM Institute for Business Value, May, 2010

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